

1. (Amended) A method of making a set of labeled compounds, by the use of a support and a set of labels, said method comprising the steps of:

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a) at least one first or intermediate step comprising dividing the support into lots, performing a different chemical reaction on each lot of the support so as either to modify that lot of the support or to couple a chemical moiety to that lot of the support, tagging a fraction of each lot of the support with a different label, and combining said lots of the support, and

b) at least one intermediate or final step comprising dividing the support into lots, performing a different chemical reaction on each lot of the support, so as either to modify that lot of the support or to couple a chemical moiety to that lot of the support, tagging a fraction of each lot of the support with a different cleavable label, wherein the label is cleavable to give a charged species for mass spectrometry, whereby each different cleavable label is linked to a chemical moiety coupled to the support in a different step and forms with that chemical moiety a labeled compound which is separable from the support, and combining the said lots of the support.

6. (Amended) The method of claim 5, wherein set of labeled compounds contains $n \times s$ different labels.

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7. (Amended) The method of claim 1, wherein each labeled compound comprises a single label and at least one chemical moiety.

8. (Amended) The method of claim 1, wherein the support is treated to release said labeled compounds into solution.

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10. (Amended) The method of claim 1, wherein the support has cleavable linkers, wherein each cleavable linker has at least one group for chemical synthesis and another group for labeling.

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14. (Amended) The method of claim 1, wherein the labeled compounds are labeled oligonucleotides.

15. (Amended) A set of labeled compounds wherein a molecule of a compound of the set is tagged with a single cleavable label which identifies the nature and/or the position of a

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COOL. component of that molecule, whereby each label is cleavable to give a charged species for mass spectrometry, and different molecules of the same compound are tagged with different labels.

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22. **(Amended)** The set of claim 15, wherein the labeled compounds are labeled oligonucleotides.

23. **(Amended)** A library consisting of the set of labeled compounds of claim 19.

67. **(Amended)** A library consisting of the set of labeled compounds of claim 20.

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68. **(Amended)** A library consisting of the set of labeled compounds of claim 21.

69. **(Amended)** A library consisting of the set of labeled compounds of claim 22.